

Amendment  
Serial No.09/192,674

Docket No.PHN16,762A

**IN THE CLAIMS:**

**Kindly replace the claims of record with the following full set of claims:**

1. (Currently amended) A method of motion-compensated predictive image encoding, comprising the steps of:

estimating (ME) first motion vectors (MVc, MVi, MVr, MVa, MVb) associated with a set of for the first objects of a fixed size (16\*16), said motion vectors MVi, MVr, MVa, MVb being associated with first objects adjacent to a first object associated with the MVc motion vector;

filtering (MVPF) every occurrence of said first motion vectors (MVc, MVi, MVr, MVa, MVb) to obtain second motion vectors (MV1, MV2, MV3, MV4) for second objects having a fixed size (8\*8), said second objects (8\*8) being smaller than said first objects fixed size (16\*16);

generating (3) prediction errors in dependence on said second motion vectors (MV1, MV2, MV3, MV4) only; and

combining (VLC) said first motion vectors (MVc, MVi, MVr, MVa, MVb) and said prediction errors.

2. (Currently amended) A method as claimed in claim 1, wherein said first objects (16\*16) are macro-blocks having a fixed size of (16\*16) pixels, said second objects (8\*8) are blocks having a fixed size of (8\*8) pixels and said filtering step (MVPF) comprises the steps of:

providing x and y motion vectors components of a given macro-block (MVc) and of macro-block (MVi, MVr, MVa, MVb) adjacent to said given macro-block (MVc); and

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supplying for each block (MV1) of a number of blocks (MV1-MV4) corresponding to said given macro-block (MVC), x and y motion vector components respectively selected from said x and y motion vector components of said given macro-block (MVC) and from the x and y motion vector components of two blocks (MVi, MVA) adjacent to said block (MV1).

3 (Currently amended) A device for motion-compensated predictive image encoding comprising:

means for estimating (ME) first motion vectors (MVC, MVi, MVr, MVA, MVb)  
~~for first objects (16\*16)~~ estimating (ME) first motion vectors (MVC, MVi, MVr, MVA, MVb) associated with a set of ~~for the first objects of a fixed size (16\*16)~~, said motion vectors MVi, MVr, MVA, MVb being associated with first objects adjacent to a first object associated with the MVC motion vector;

means for filtering (MVPF) every occurrence of said first motion vectors (MVC, MVi, MVr, MVA, MVb) to obtain second motion vectors (MV1, MV2, MV3, MV4) for second objects ~~having a fixed size (8\*8)~~, said second objects (8\*8) being smaller than said first objects ~~fixed size (16\*16)~~;

means for generating (3) prediction errors in dependence on said second motion vectors (MV1, MV2, MV3, MV4) only; and

means for combining (VLC) said first motion vectors (MVC, MVi, MVr, MVA, MVb) and said prediction errors.

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4. (Currently amended) A method of motion-compensated predictive decoding, comprising the steps of:

generating (VLC<sup>-1</sup>) first motion vectors (MVc, MVI, MVr, MVa, MVb) and prediction errors from an input bit-stream, said first motion vectors (MVc, MVI, MVr, MVa, MVb) relating to first objects of a fixed size (16\*16), and said motion vectors MVI, MVr, MVa, MVb being associated with first objects adjacent to a first object associated with the MVc motion vector, and said prediction errors related to second objects having a fixed size (8\*8), smaller than said first objects fixed size only;

filtering (MVPF) every occurrence of said first motion vectors (MVc, MVI, MVr, MVa, MVb) to obtain second motion vectors (MV1, MV2, MV3, MV4) for said second objects (8\*8) said second objects (8\*8) being smaller than said first objects (16\*16); and generating (15, MC) an output signal in dependence on said prediction errors and said second motion vectors (MV1, MV2, MV3, MV4).

5. (Currently amended) A method as claimed in claim 4, wherein said first objects (16\*16) are macro-blocks having a fixed size of (16\*16) pixels, said second objects (8\*8) are blocks having a fixed size of (8\*8) pixels, and said filtering step (MVPF) comprises the steps of:

providing x and y motion vectors components of a given macro-block (MVc) and of macro-block (MVI, MVr, MVa, MVb) adjacent to said given macro-block (MVc); and supplying for each block (MV1) of a number of blocks (MV1-MV4) corresponding to said given macro-block (MVc), x and y motion vector components respectively selected from said x and y motion vector components of said given macro-block (MVc) and from

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the x and y motion vector components of two blocks (MV1, MVa) adjacent to said block (MV1).

6. (Currently amended) A device for motion-compensated predictive decoding, comprising:

means for generating (VLC<sup>-1</sup>) first motion vectors (MVC, MVI, MVR, MVA, MVb) and prediction errors from an input bit-stream, said first motion vectors (MVC, MVI, MVR, MVA, MVb) relating to first objects of a fixed size (16\*16), said motion vectors MVI, MVR, MVA, MVb being associated with first objects adjacent to a first object associated with the MVC motion vector, and said prediction errors related to second objects (8\*8) only;

means for filtering (MVPF) every occurrence of said first motion vectors (MVC, MVI, MVR, MVA, MVb) to obtain second motion vectors (MV1, MV2, MV3, MV4) for said second objects having a fixed size (8\*8), said second objects (8\*8) being smaller than said first objects fixed size (16\*16); and

means for generating (15, MC) an output signal in dependence on said prediction errors and said second motion vectors (MV1, MV2, MV3, MV4).

7. (Previously presented) A multi-media apparatus, comprising:

means (T) for receiving a motion-compensated predictively encoded image signal; and

a motion-compensated predictive decoding device as claimed in claim 6 for generating a decoded image signal.

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8. (Previously presented) An image signal display apparatus comprising:  
means (T) for receiving a motion-compensated predictively encoded image  
signal;  
a motion-compensated predictive decoding device as claimed in claim 6 for  
generating a decoded image signal; and  
means (D) for displaying said decoded image signal.

9. (Currently amended) A method for generating a motion-compensated  
predictively encoded image signal, comprising:  
estimating first motion vectors (MVc, MVl, MVr, MVa, MVb) related to first  
objects of size (16\*16) pixels; obtaining second motion vectors (MVl, MV2, MV3, MV4)  
for second objects of size (8\*8) pixels from said first motion vectors (MVc, MVl, MVr,  
MVa, MVb) and generating prediction errors relating to every occurrence of second  
objects (8\*8), said second objects (8\*8) being smaller than said first objects (16\*16),  
wherein said prediction errors depend on said second motion vectors (MV1, MV2, MV3,  
MV4) only.